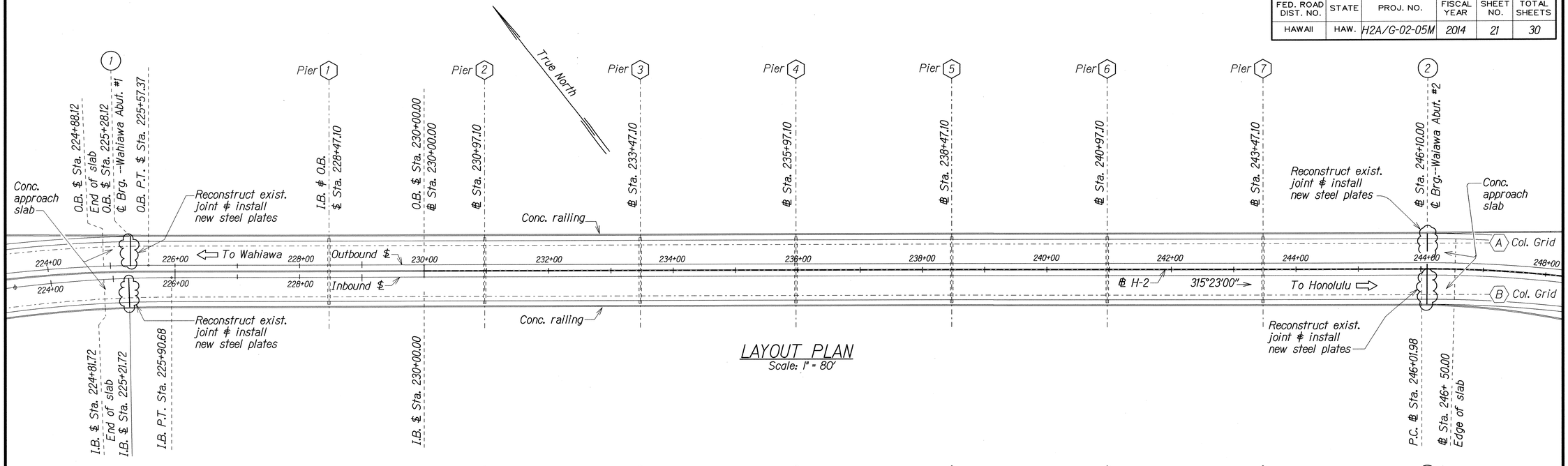
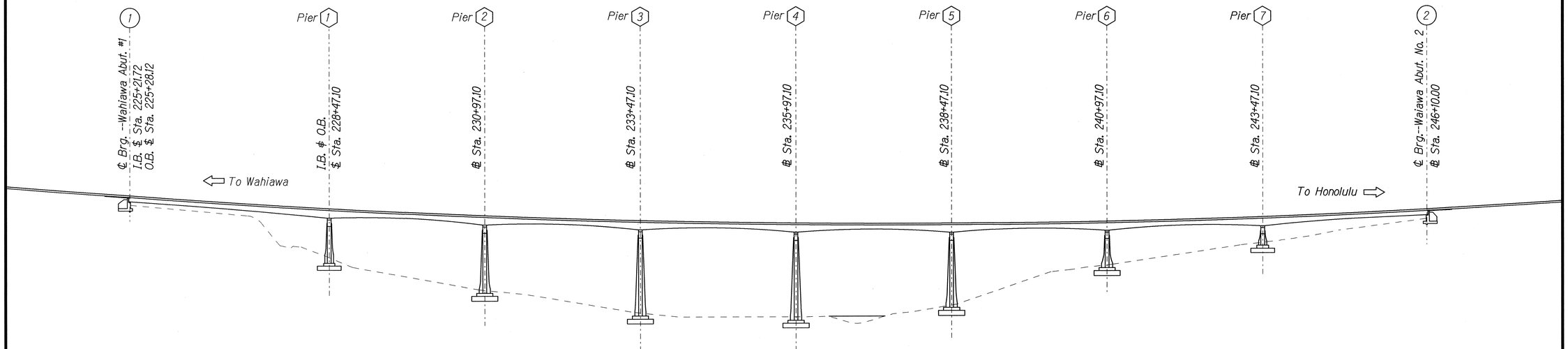
FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	H2A/G-02-05M	2014	21	30



LAYOUT PLAN
Scale: 1" = 80'



LONGITUDINAL SECTION
Scale: 1" = 80'

KIPAPA STREAM BRIDGE

ORIGINAL PLAN	SURVEY PLOTTED BY	DATE
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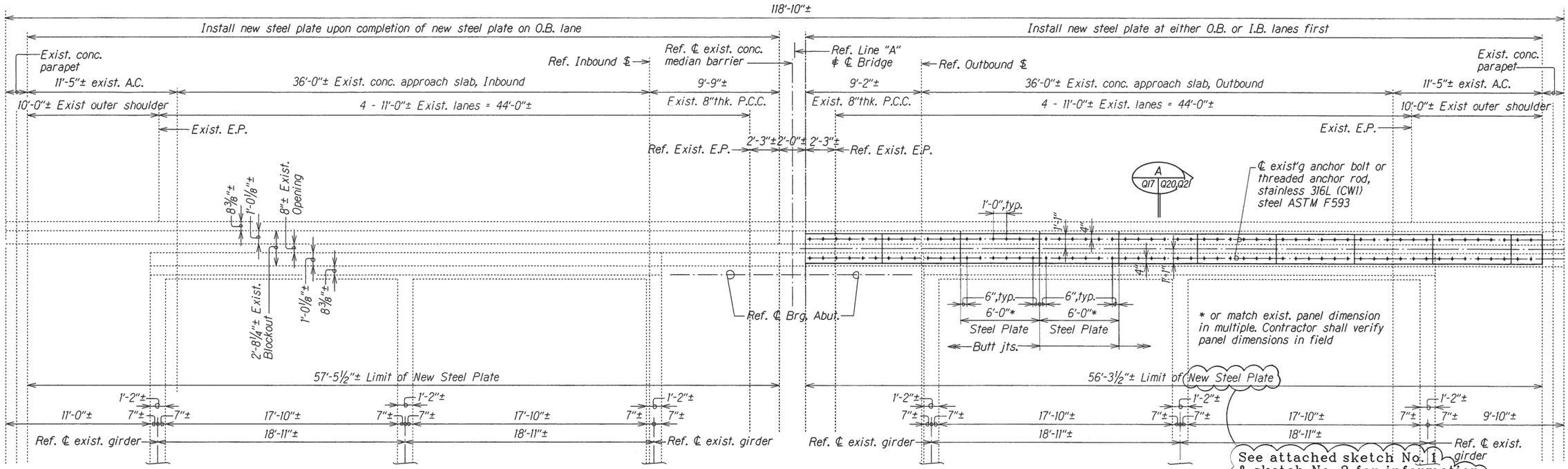
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

KIPAPA STREAM BRIDGE
LAYOUT PLAN and LONGITUDINAL SECTION
INTERSTATE ROUTE H-2 JOINT REPAIR
WAIAWA INTERCHANGE to WAHIAWA INTERCHANGE
Project No. H2A/G-02-05M

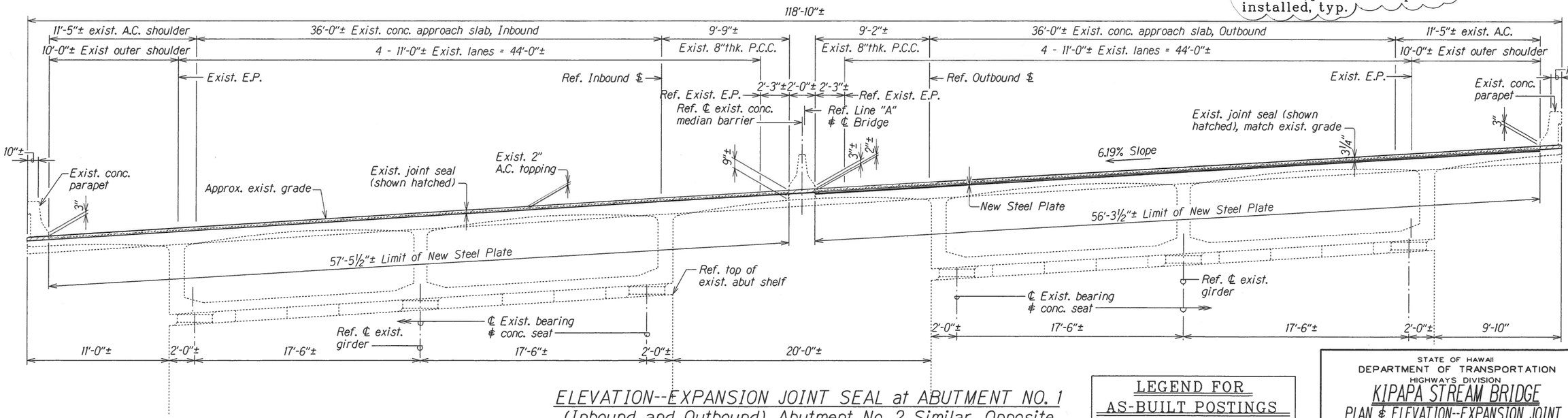
Scale: As Noted — Date: Aug. 2013

SHEET No. Q16 OF 22 SHEETS

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	H2A/G-02-05M	2014	22	30



PLAN--NEW STEEL PLATE at ABUTMENT NO. 1 (Inbound and Outbound), Abutment No. 2 Similar



ELEVATION--EXPANSION JOINT SEAL at ABUTMENT NO. 1 (Inbound and Outbound), Abutment No. 2 Similar, Opposite

KIPAPA STREAM BRIDGE

Scale: 1/4" = 1'-0"

LEGEND FOR AS-BUILT POSTINGS

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Roadway	Text for as-built posting

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

KIPAPA STREAM BRIDGE

PLAN & ELEVATION--EXPANSION JOINT SEAL at ABUTMENT NOS. 1 & 2

INTERSTATE ROUTE H-2 JOINT REPAIR
WAIAWA INTERCHANGE to WAHIAWA INTERCHANGE
Project No. H2A/G-02-05M

Scale: As Noted — Date: Aug, 2013

SHEET No. Q17 OF 22 SHEETS

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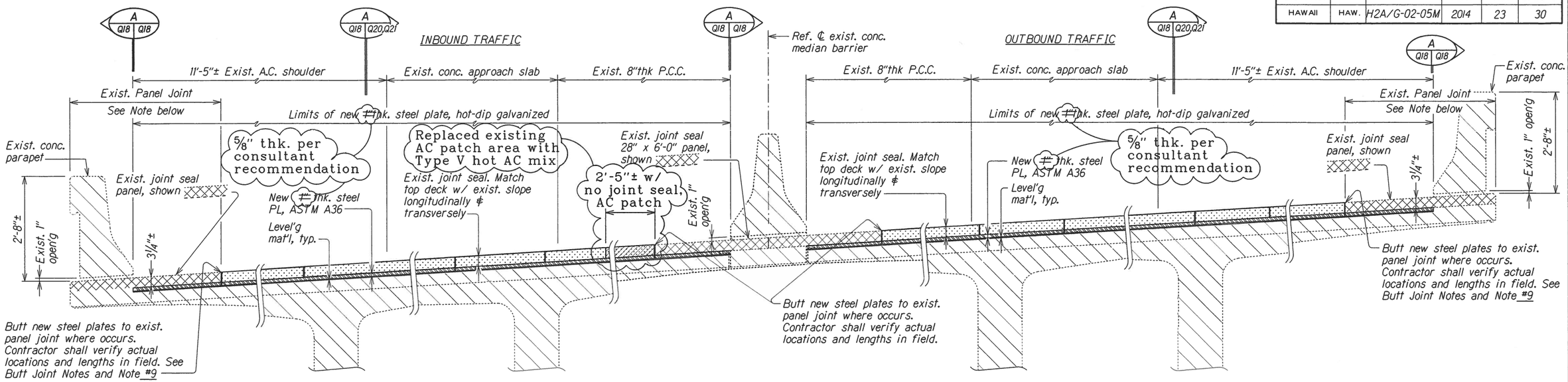
FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	H2A/G-02-05M	2014	23	30



TYPICAL SECTION THRU EXPANSION JOINT at ABUTMENT NO. 1
Inbound and Outbound (Abutment No. 2 Similar)

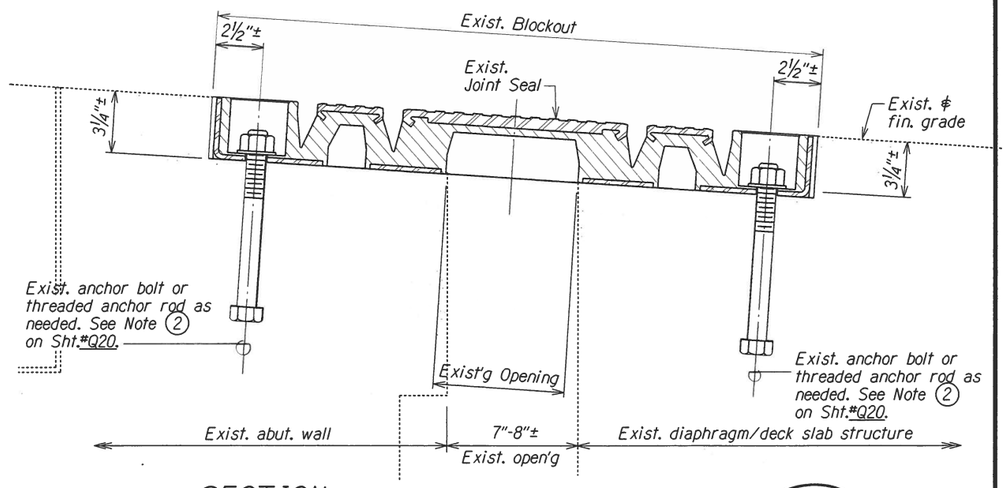
Scale: ¾" = 1'-0"

BUTT JOINT NOTES:

1. Provide watertight condition per manufacturer's specifications at each existing panel joint.

NOTES:

1. The Contractor shall provide traffic control plans to direct public traffic for lane closures throughout the completion of work. See Special Provisions, Section 645, for suggested lane closure timetable.
2. All existing reinforcing bars shall be cleaned of rust, concrete, etc. before new concrete is poured. Cleaning of existing reinforcing bars shall be incidental and shall not be paid for separately.
3. All voids below existing P.C.C. shall be filled with concrete. No vehicles shall pass over until the concrete has been poured above existing bed course material and has gained a strength of f'_c = 3,000 p.s.i.. The new concrete shall be poured to the depth as shown in the plan and shall not form "cold joint".
4. Provide shoring as necessary to support and prevent undermining of existing bed course material.
5. No vehicles shall cross over existing joint seal upon removal of existing concrete until it has adequately supported and stabilized.
6. The existing seal's finish grade shall match and maintain the grade of the existing roadway in both longitudinal and transverse directions.
7. See "Special Provisions" for material specifications and construction requirements.
8. Probe and locate existing reinforcing bars and adjust saw-cut depth accordingly.
9. The Contractor shall complete installation of new steel plate in each traffic lane prior to commencing with removal of existing concrete in other traffic lane. Removal of existing concrete in two traffic lanes may be done concurrently only if it can be completed within a scheduled lane-closure time frame.
10. Under cut existing bars one inch (1") into existing concrete, where existing reinforcing bars are cut.
11. Cut existing anchor bolts flush with or below concrete surface. Do not apply heat to cut bolts.
12. The Contractor shall verify in field all dimensions for accuracy, changes in field conditions, etc. prior to commencing with work, and notify the Engineer in advance of any discrepencies or omissions from the contract plans.



SECTION
BENEATH CONCRETE PARAPET and MEDIAN BARRIER ONLY
Not to Scale

A Q18 Q18

LEGEND FOR AS-BUILT POSTINGS

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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

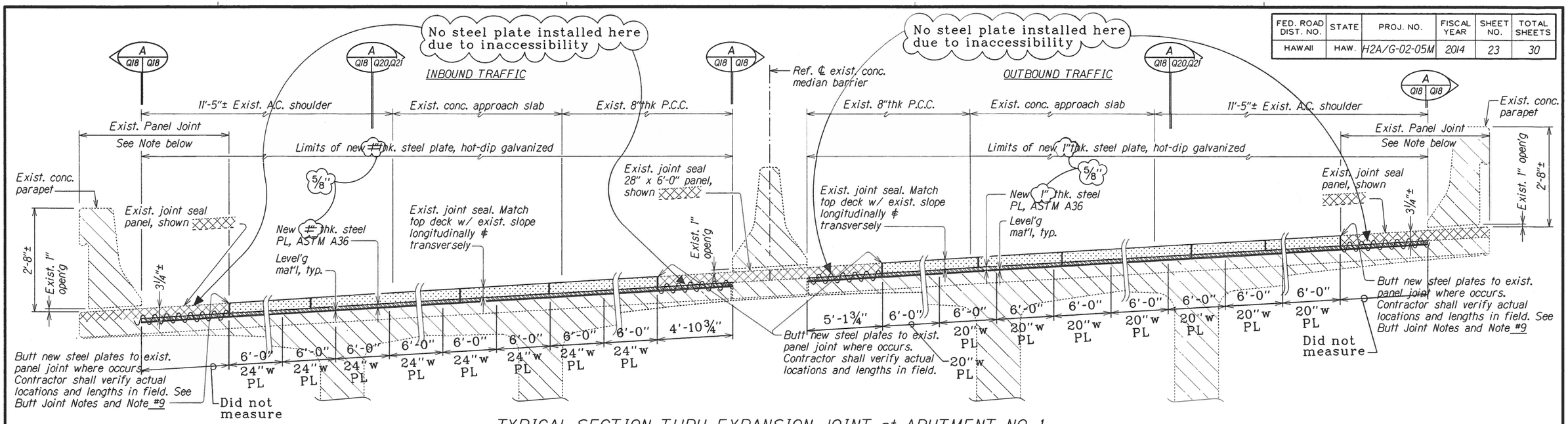
KIPAPA STREAM BRIDGE
TYPICAL SECTION THRU EXPANSION JOINT at ABUTMENT NO. 1 (Inbound & Outbound)
INTERSTATE ROUTE H-2 JOINT REPAIR
WAIAWA INTERCHANGE to WAHIAWA INTERCHANGE
Project No. H2A/G-02-05M

Scale: As Noted | Date: Aug, 2008

SHEET No. Q18 OF 22 SHEETS

"AS-BUILT"

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	H2A/G-02-05M	2014	23	30



TYPICAL SECTION THRU EXPANSION JOINT at ABUTMENT NO. 1
Inbound and Outbound ~~(Abutment No. 2 Similar)~~

Scale: ¾" = 1'-0"

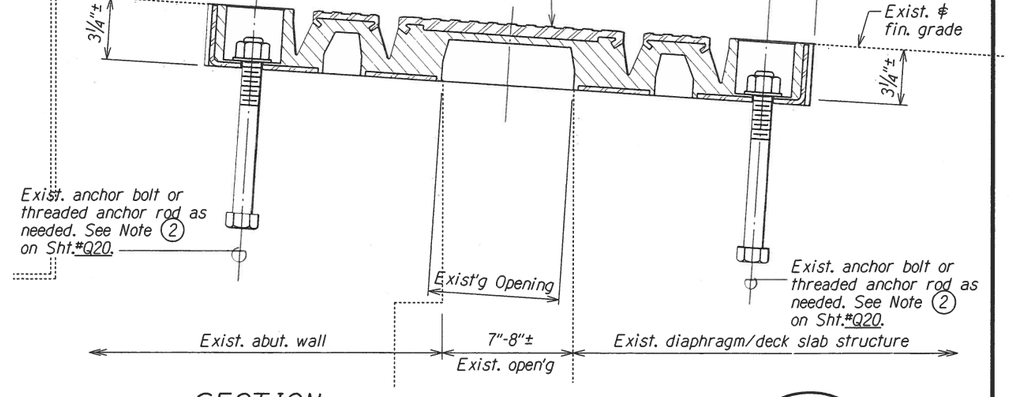
Abutment No. 1 is North Abutment

BUTT JOINT NOTES:

1. Provide watertight condition per manufacturer's specifications at each existing panel joint.

NOTES:

1. The Contractor shall provide traffic control plans to direct public traffic for lane closures throughout the completion of work. See Special Provisions, Section 645, for suggested lane closure timetable.
2. All existing reinforcing bars shall be cleaned of rust, concrete, etc. before new concrete is poured. Cleaning of existing reinforcing bars shall be incidental and shall not be paid for separately.
3. All voids below existing P.C.C. shall be filled with concrete. No vehicles shall pass over until the concrete has been poured above existing bed course material and has gained a strength of f'_c = 3,000 p.s.i.. The new concrete shall be poured to the depth as shown in the plan and shall not form "cold joint".
4. Provide shoring as necessary to support and prevent undermining of existing bed course material.
5. No vehicles shall cross over existing joint seal upon removal of existing concrete until it has adequately supported and stabilized.
6. The existing seal's finish grade shall match and maintain the grade of the existing roadway in both longitudinal and transverse directions.
7. See "Special Provisions" for material specifications and construction requirements.
8. Probe and locate existing reinforcing bars and adjust saw-cut depth accordingly.
9. The Contractor shall complete installation of new steel plate in each traffic lane prior to commencing with removal of existing concrete in other traffic lane. Removal of existing concrete in two traffic lanes may be done concurrently only if it can be completed within a scheduled lane-closure time frame.
10. Under cut existing bars one inch (1") into existing concrete, where existing reinforcing bars are cut.
11. Cut existing anchor bolts flush with or below concrete surface. Do not apply heat to cut bolts.
12. The Contractor shall verify in field all dimensions for accuracy, changes in field conditions, etc. prior to commencing with work, and notify the Engineer in advance of any discrepencies or omissions from the contract plans.



SECTION

BENEATH CONCRETE PARAPET and MEDIAN BARRIER ONLY
Not to Scale

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LEGEND FOR AS-BUILT POSTINGS

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Roadway	Text for as-built posting

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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

KIPAPA STREAM BRIDGE
TYPICAL SECTION THRU EXPANSION JOINT at ABUTMENT NO. 1 (Inbound & Outbound)
INTERSTATE ROUTE H-2 JOINT REPAIR
WAIAWA INTERCHANGE to WAHIAWA INTERCHANGE
Project No. H2A/G-02-05M

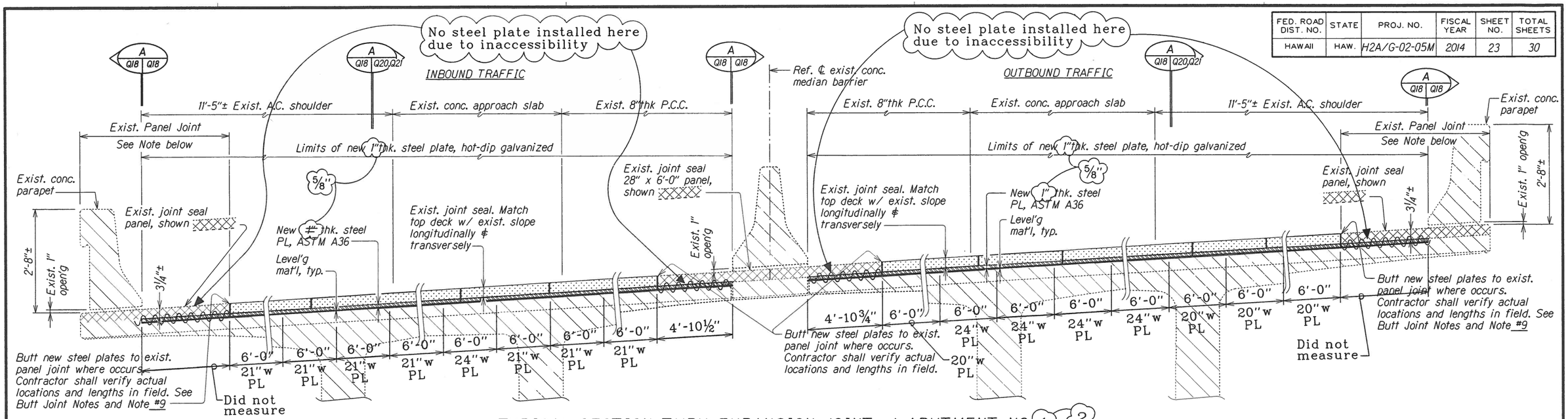
Scale: As Noted | Date: Aug, 2008

SHEET No. Q18A OF 22 SHEETS

"AS-BUILT"

23 S-1

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	H2A/G-02-05M	2014	23	30



TYPICAL SECTION THRU EXPANSION JOINT at ABUTMENT NO. ~~1~~ 2
Inbound and Outbound ~~(Abutment No. 2 Similar)~~

Scale: ¾" = 1'-0"

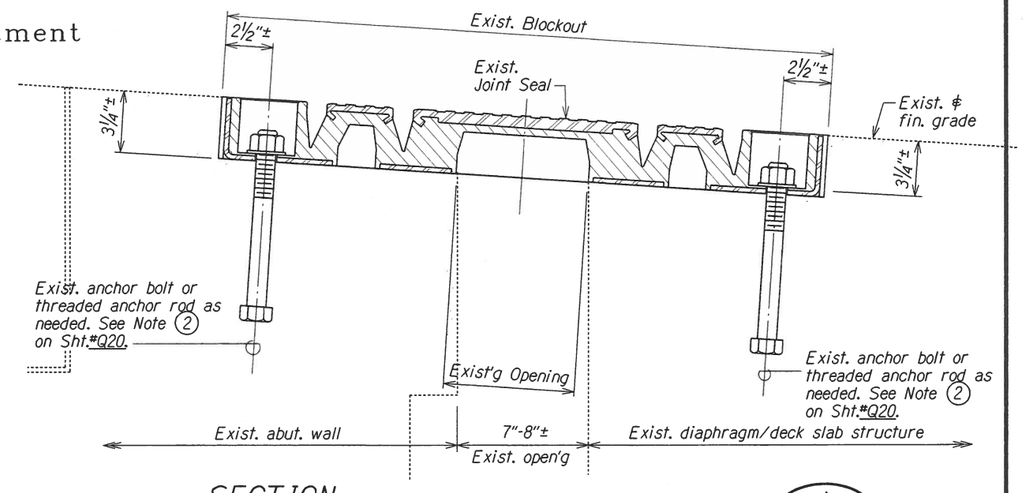
Abutment No. 2 is South Abutment

BUTT JOINT NOTES:

1. Provide watertight condition per manufacturer's specifications at each existing panel joint.

NOTES:

1. The Contractor shall provide traffic control plans to direct public traffic for lane closures throughout the completion of work. See Special Provisions, Section 645, for suggested lane closure timetable.
2. All existing reinforcing bars shall be cleaned of rust, concrete, etc. before new concrete is poured. Cleaning of existing reinforcing bars shall be incidental and shall not be paid for separately.
3. All voids below existing P.C.C. shall be filled with concrete. No vehicles shall pass over until the concrete has been poured above existing bed course material and has gained a strength of f'_c = 3,000 p.s.i.. The new concrete shall be poured to the depth as shown in the plan and shall not form "cold joint".
4. Provide shoring as necessary to support and prevent undermining of existing bed course material.
5. No vehicles shall cross over existing joint seal upon removal of existing concrete until it has adequately supported and stabilized.
6. The existing seal's finish grade shall match and maintain the grade of the existing roadway in both longitudinal and transverse directions.
7. See "Special Provisions" for material specifications and construction requirements.
8. Probe and locate existing reinforcing bars and adjust saw-cut depth accordingly.
9. The Contractor shall complete installation of new steel plate in each traffic lane prior to commencing with removal of existing concrete in other traffic lane. Removal of existing concrete in two traffic lanes may be done concurrently only if it can be completed within a scheduled lane-closure time frame.
10. Under cut existing bars one inch (1") into existing concrete, where existing reinforcing bars are cut.
11. Cut existing anchor bolts flush with or below concrete surface. Do not apply heat to cut bolts.
12. The Contractor shall verify in field all dimensions for accuracy, changes in field conditions, etc. prior to commencing with work, and notify the Engineer in advance of any discrepencies or omissions from the contract plans.



SECTION
BENEATH CONCRETE PARAPET and MEDIAN BARRIER ONLY
Not to Scale

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LEGEND FOR AS-BUILT POSTINGS

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Roadway	Text for as-built posting

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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

KIPAPA STREAM BRIDGE 2

TYPICAL SECTION THRU EXPANSION JOINT at ABUTMENT NO. ~~1~~ 2 (Inbound & Outbound)

INTERSTATE ROUTE H-2 JOINT REPAIR
WAIAWA INTERCHANGE to WAHIAWA INTERCHANGE
Project No. H2A/G-02-05M

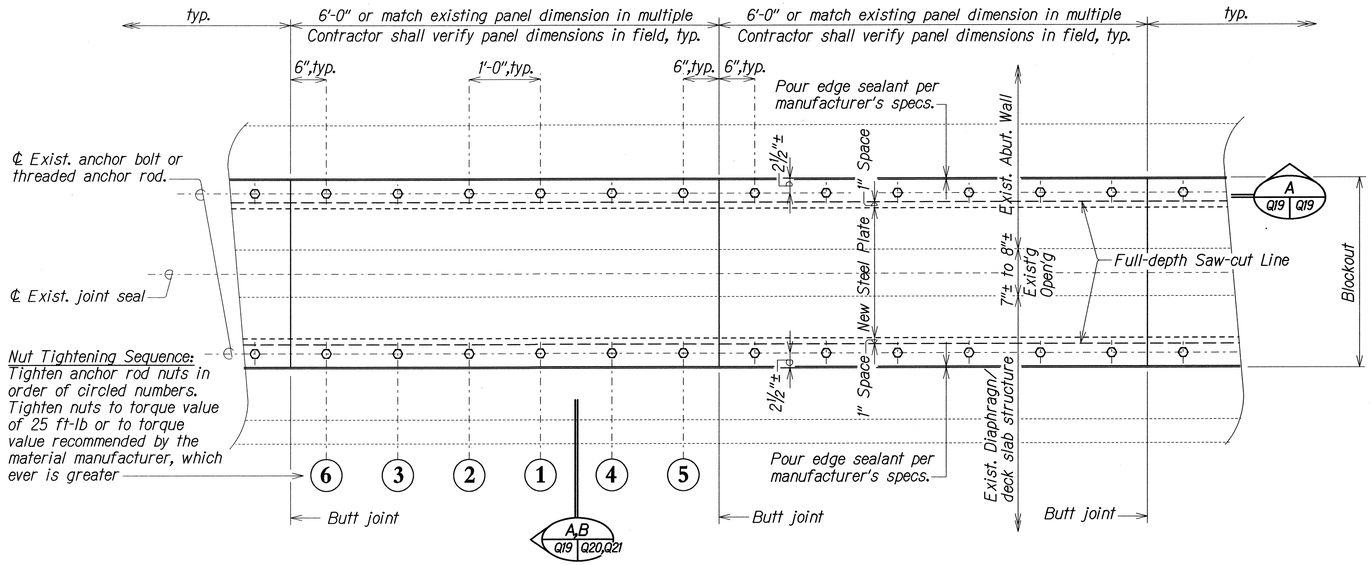
Scale: As Noted | Date: Aug, 2008

SHEET No. Q18B OF 22 SHEETS

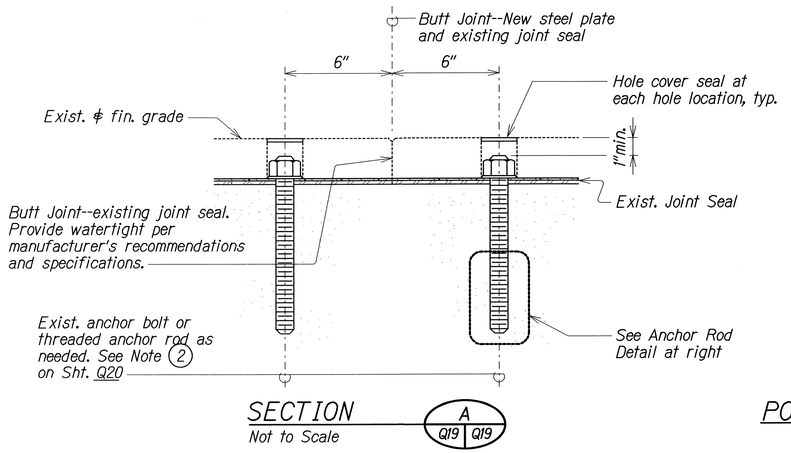
"AS-BUILT"

23 S-2

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	H2A/G-02-05M	2014	24	30



PARTIAL PLAN
EXISTING JOINT BLOCKOUT 31" to 36" or GREATER THAN 36"



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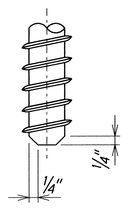
Q19 Q19



POST ANCHOR ROD DETAIL
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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

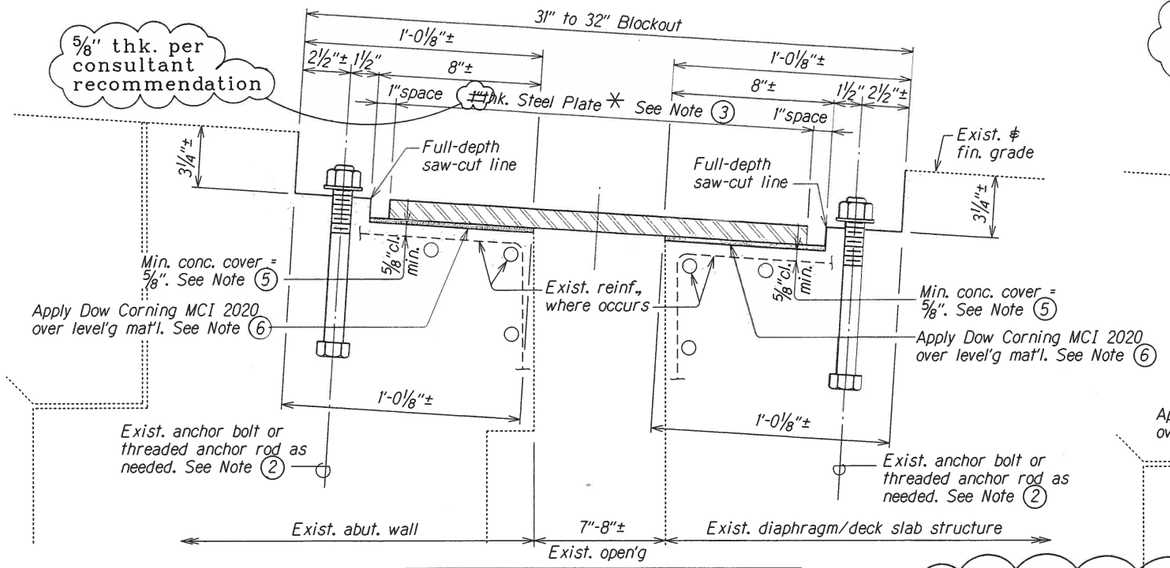
KIPAPA STREAM BRIDGE

PARTIAL PLANS - EXISTING JOINT BLOCKOUTS
31" to 36" & GREATER THAN 36"
INTERSTATE ROUTE H-2 JOINT REPAIR
WAIAWA INTERCHANGE to WAHIAWA INTERCHANGE
Project No. H2A/G-02-05M

Scale: As Noted
Date: Aug. 2013

SHEET No. Q19 OF 22 SHEETS

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	H2A/G-02-05M	2014	25	30



✳ JOINT OPENING	STEEL PLATE WIDTH
7" - 7 1/2"	21"
7 1/2" - 8"	22"

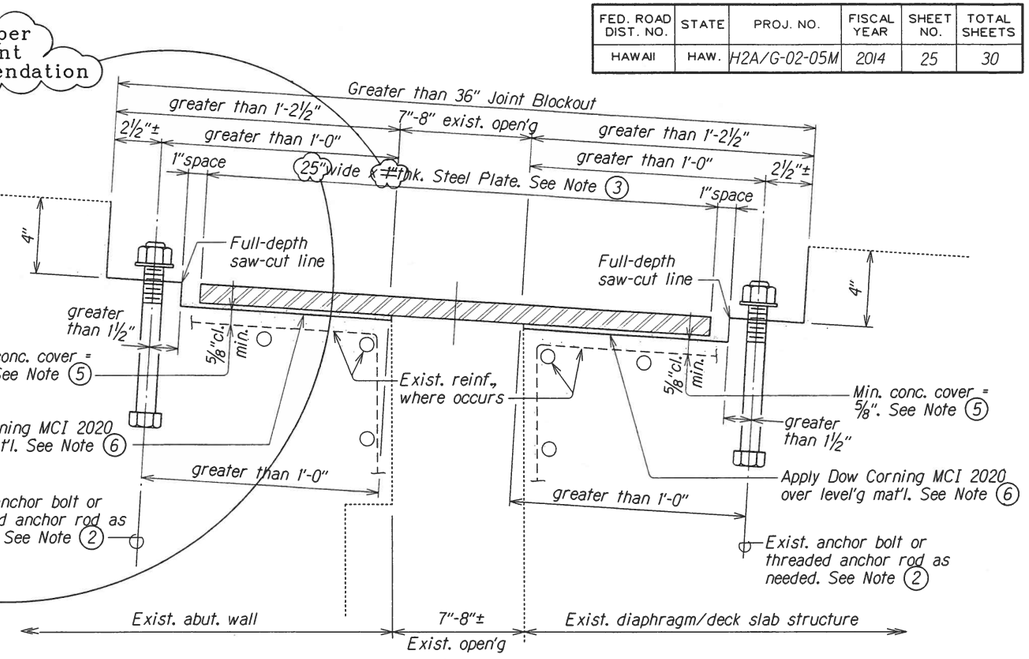
ASTM A36 or A529, Gr. 50, hot-dip galvanized.

See Sht. nos. Q18A & Q18B for information on new 5/8"thick steel plates installed, typ.

TYPICAL STEEL PLATE SECTION at EXISTING JOINT BLOCKOUT 31" to 32"

Not to Scale

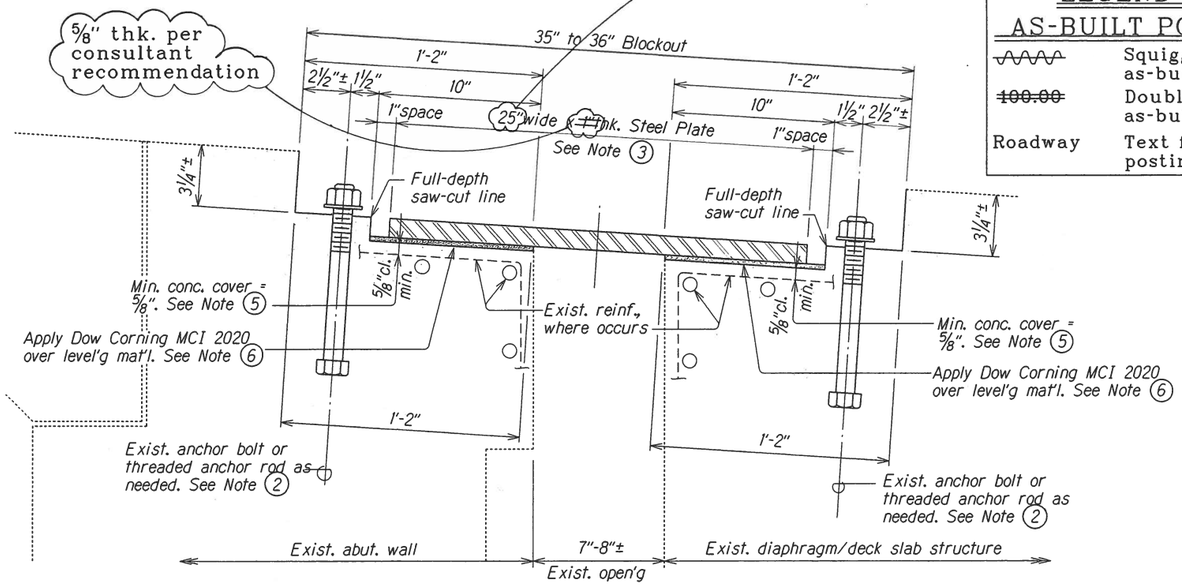
A — Q19 | Q20



TYPICAL STEEL PLATE SECTION at EXISTING JOINT BLOCKOUT GREATER THAN 36"

Not to Scale

B — Q19 | Q20



TYPICAL STEEL PLATE SECTION at EXISTING JOINT BLOCKOUT 35" to 36"

Not to Scale

A — Q19 | Q20

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NOTES:

1. Grade at top surface of #" thick steel plate shall match bottom grade of existing joint seal longitudinally and transversely. Verify location of existing reinforcing bars before saw-cutting or placement of leveling material or steel plate. Do not cut or damage existing reinforcing bars. Adjust saw-cut depth according to existing bar location.
2. Install stainless steel threaded (316L) anchor rods where needed. Embedment length of anchor rods = 11 x rod dia. or as recommended by the manufacturer, whichever is greater. The size of anchor rod shall meet that of existing bolt.
3. Remove all loose concrete prior to placement of leveling material. Use 15-lb. (max.) tool to remove concrete. Use only pointed chipping (handheld) tool to produce final concrete stratum. Notify the Engineer in the event that 1" thk. steel plate interferes with existing reinforcing bars. Use ASTM A529, Gr. 50 where plates encroach into existing reinforcing bars.
4. Where thickness of steel plate interferes with existing reinforcing steel in the joint blockout, the Contractor shall use steel plate conforming to ASTM A529, Gr. 50 specifications or alternate meeting or exceeding requirements of the specifications. Thickness of steel plate may be equal or greater than 3/4".
5. Prior to saw-cutting of concrete, probe locations of existing reinforcing bars and adjust saw-cut depth according to existing bar locations. Minimum concrete cover = 5/8"
6. Corrosion Inhibitor: Dow Corning MCI 2020, equivalent or better, apply minimum of two (2) coats. Apply each coat after it soaks into the concrete.

TYPICAL STEEL PLATE DETAILS at EXISTING JOINT BLOCKOUTS, 31" to 36" and GREATER THAN 36"

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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

KIPAPA STREAM BRIDGE

TYPICAL STEEL PLATE DETAILS at EXISTING JOINT BLOCKOUTS, 31" to 36" & GREATER THAN 36"

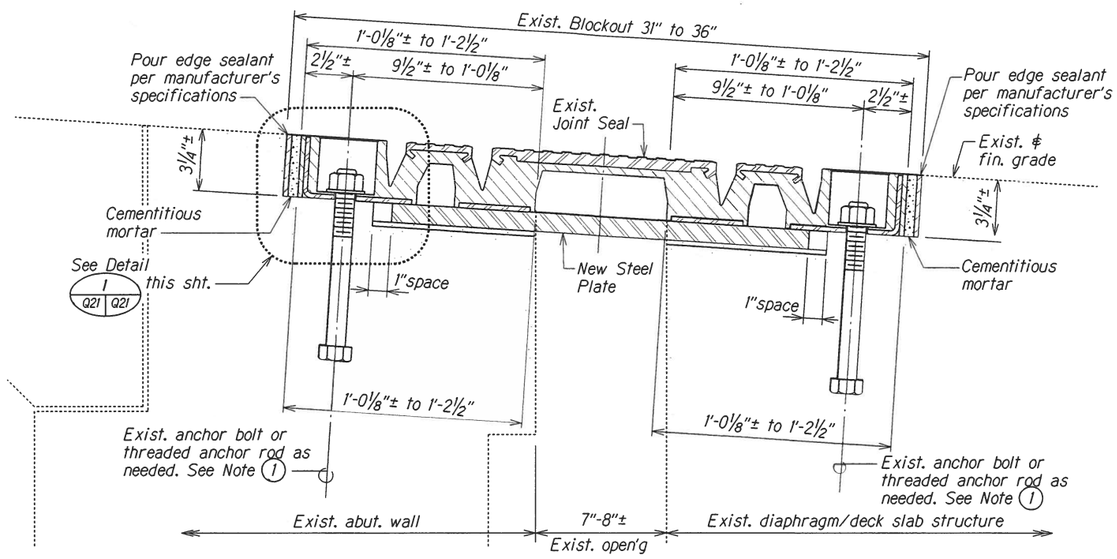
INTERSTATE ROUTE H-2 JOINT REPAIR
WAIAWA INTERCHANGE to WAHIAWA INTERCHANGE
Project No. H2A/G-02-05M

Scale: As Noted — Date: Aug, 2013

SHEET No. Q20 OF 22 SHEETS

"AS-BUILT"

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	H2A/G-02-05M	2014	26	30



TYPICAL SECTION
EXISTING JOINT BLOCKOUT 31" to 36"

A — Q19 | Q21

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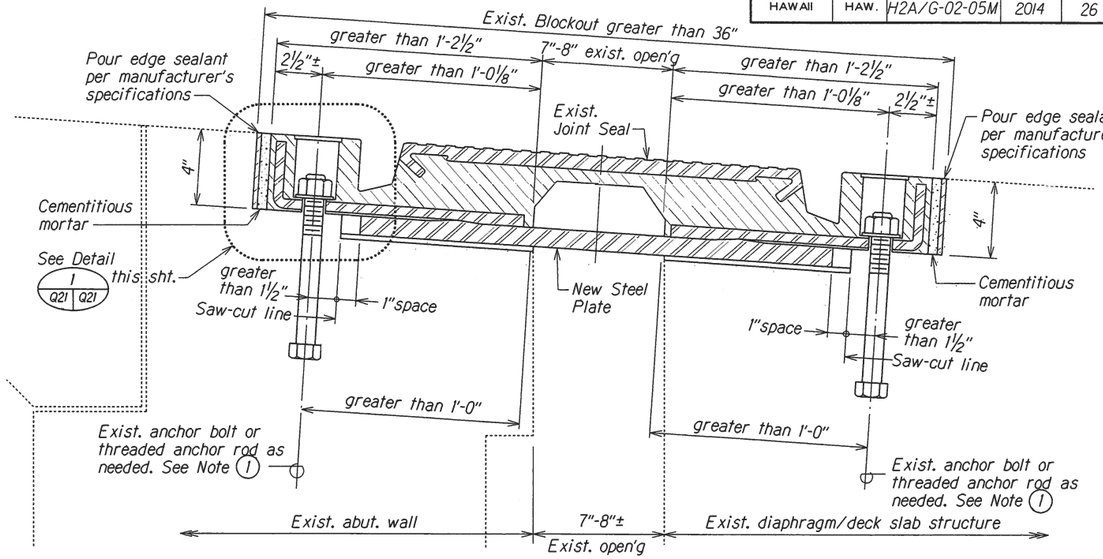


TYPICAL SECTION
EXISTING JOINT BLOCKOUT GREATER THAN 36"

B — Q19 | Q21

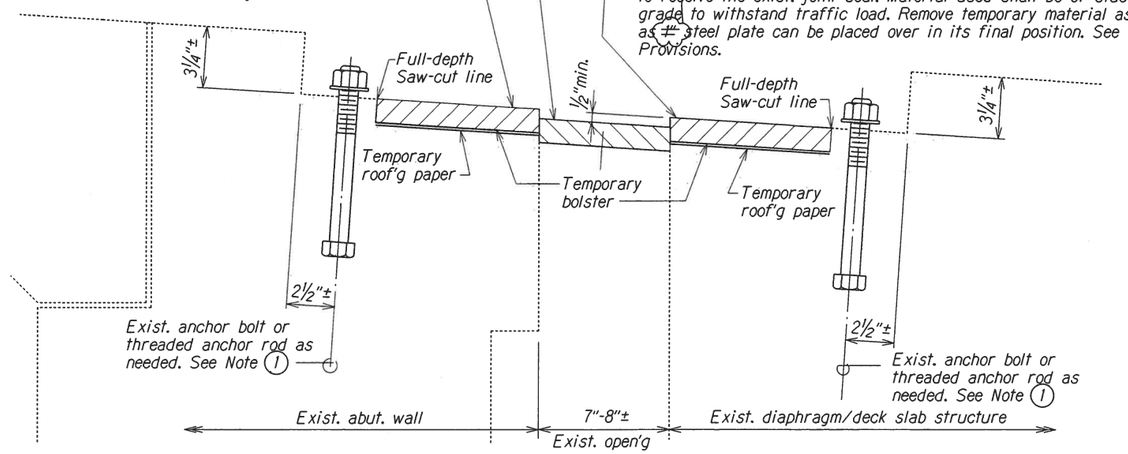
Not to Scale

Place temporary construction material ½" below the longitudinal grade, placed firmly against the concrete surface. Remove it when 1" thk. Steel Plate can be installed in its final position. Do not use styrofoam or other "soft" material which can easily be compressed.

5⁄8" thk. per consultant recommendation

Remove portion of existing concrete to depth of ⅝" minimum clear cover of exist. reinforcing bars. Concrete surface profile at bottom shall be as even as possible. Place roofing sheet or felt as needed to match the longitudinal grade and to receive the wheel loads of the exist. joint seal.

During the construction phase when new steel plate installation cannot be completed within a working day, place temporary construction material (wood or similar) firmly between butt joints. Top surface shall match the bottom grade of joint blockout to receive the exist. joint seal. Material used shall be of stuctural grade to withstand traffic load. Remove temporary material as soon as ~~#~~ steel plate can be placed over in its final position. See Special Provisions.



TYPICAL SECTION
TEMPORARY BOLSTER for EXISTING JOINT SEAL

A — Q19 | Q21

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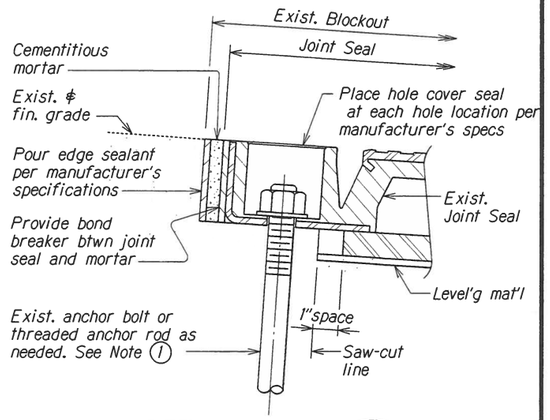
NOTES:

1. *Threaded adhesive anchor rod, stainless 316L (CW2) steel ASTM F593 w/nut ℄ washer. Drill holes into concrete normal to plane of concrete surface. Drilled hole diameter for adhesive anchor rod shall be that specified by the material manufacturer, e.g. (D + ⅛"). See Special Provisions*
2. *Replace damaged or worn-out existing anchor bolts with threaded anchor rods. Tighten anchor nuts to manufacturer-recommended torque value.*
3. *Concrete stratum at bottom of concrete removal must be free of loose concrete and must be roughened. Roughened surface should be prepared in even amplitude and close pattern.*
4. *Upon completion of removal of portion of concrete and whenever steel plate installation cannot be completed within a working day, place temporary bolster for allowing traffic loads over the existing joint seal. Bolster must be placed to bear traffic loads. Full contact shall be made between bolster and existing joint seal system. Insert roofing felt between bolster and concrete wherever needed. See Special Provisions.*
5. *Steel plate and leveling material shall be placed as soon as concrete removal is completed. The existing joint seal system shall be securely fastened and shall not leave space between steel plate and existing joint seal. Tightening of anchor nut shall not create any uplift of existing joint seal.*
6. *Upon completion of steel plate installation in each traffic lane, the Contractor shall test the repaired joint seal for smooth passage, riding comfort and level of wheel impact between existing joint system and steel plate or load-bearing concrete surfaces. The Contactor shall correct any defects to the satisfaction of the Engineer.*



DETAIL

1 — Q21 | Q21

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Roadway	Text for as-built posting

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

KIPAPA STREAM BRIDGE

TYPICAL REPAIR DETAILS at EXISTING JOINT BLOCKOUTS, 31" to 36" & GREATER THAN 36"

INTERSTATE ROUTE H-2 JOINT REPAIR
WAIAWA INTERCHANGE to WAHIAWA INTERCHANGE
Project No. H2A/G-02-05M

Scale: As Noted — Date: Aug, 2013

SHEET No. Q21 OF 22 SHEETS

TYPICAL REPAIR DETAILS at EXISTING JOINT BLOCKOUTS, 31" to 36" and GREATER THAN 36"

ORIGINAL PLAN | SURVEY PLOTTED BY | DRAWN BY | TRACED BY | DESIGNED BY | QUANTITIES BY | CHECKED BY | DATE
NOTE BOOK
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"AS-BUILT"